

Application No.: 10/774,020
Amendment dated: January 6, 2006
Reply to Office action of October 18, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1 (currently amended). A roller chain transmission in the timing drive of an automobile engine, the transmission comprising a toothed driving sprocket on a crankshaft of the engine, at least one toothed driven sprocket on a camshaft of the engine, and a roller chain having interleaved pairs of inner and outer plates, cylindrical bushings fixed to bushing holes in the inner plates, pins rotatable in said bushings and fixed to pin holes in the outer plates, and rollers rotatable on said bushings, and a toothed sprocket said toothed sprockets meshing with the roller chain,

wherein the outer diameter D of the rollers, the outer diameter d of the pins and the height H of the inner plates satisfy the following relationships with respect to the pitch P of the roller chain:

$$0.72P \leq D \leq 0.79P$$

$$0.40P \leq d \leq 0.44P$$

$$0.96P \leq H,$$

and

wherein the sprocket teeth of at least one of said toothed sprockets have a an arc-shaped tooth gap bottom, the arc of the tooth gap bottom having with a radius r, satisfying the relationship $0.505D \leq r \leq 0.505D + 0.069 \sqrt[3]{D}$, where r and D are measured in millimeters.